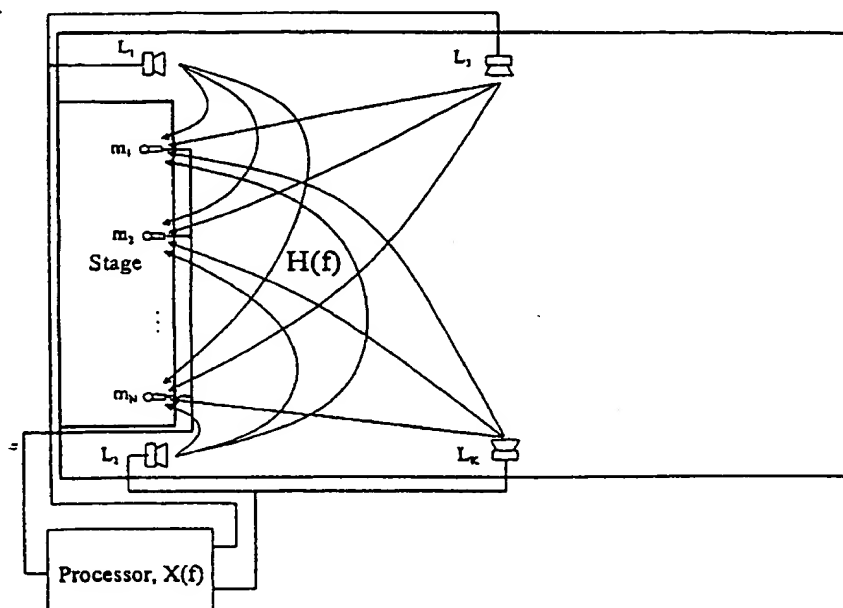




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G10K 15/08		A1	(11) International Publication Number: WO 99/54867
			(43) International Publication Date: 28 October 1999 (28.10.99)
(21) International Application Number: PCT/NZ99/00049 (22) International Filing Date: 23 April 1999 (23.04.99) (30) Priority Data: 330268 23 April 1998 (23.04.98) - NZ (71) Applicant (for all designated States except US): INDUSTRIAL RESEARCH LIMITED [NZ/NZ]; Gracefield Road, Lower Hutt 6009 (NZ). (72) Inventor; and (75) Inventor/Applicant (for US only): POLETTI, Mark [NZ/NZ]; Flat 20, 20 Invercargill Drive, Kelson, Wellington (NZ). (74) Agents: WEST-WALKER, Gregory, James et al.; Russell McVeagh West-Walker, Level 18, Mobil on the Park, 157 Lambton Quay, Wellington (NZ).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

(54) Title: AN IN-LINE EARLY REFLECTION ENHANCEMENT SYSTEM FOR ENHANCING ACOUSTICS

(57) Abstract

An in-line early enhancement generation system comprises one or more microphones positioned close to one or more sound sources so as to detect predominantly direct sound, an early reflection generation stage which generates a number of delayed reproductions of the microphone signals and which has unitary power gain whereby the stability of the system is independent of the delay times and amplitudes, and a number of loudspeakers placed to broadcast said early reflected energy into the room.